EXHIBIT A

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PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Customer No.: 23641
Application No.: 10/685319
Confirmation No.: 5029
Filing Date: October 14, 2003
Attorney Docket No.: 35203/94789
First Named Inventor: Laurence A. NAFIE
Group Art Unit: 1743
Examiner Name: Arlen Soderquist
Title: REACTION MONITORING OF CHIRAL MOLECULES USING FOURIER TRANSFORM INFRARED VIBRATIONAL CIRCULAR DICHROISM SPECTROSCOPY

I hereby certify that this correspondence
is being electronically filed with the
Commissioner for Patents

on: January 10, 2008

/MEW/
Michael E. Wever

SUPPLEMENTAL DECLARATION OF LAURENCE A. NAFIE

1. I, Laurence A. Nafie, Ph.D, am one of the inventors of the invention disclosed and claimed in the above-application. This declaration supplements my earlier declaration that was filed on December 19, 2007.

2. I understand that the Examiner inquired about the statement in Paragraph 6 of my earlier declaration. Namely, why did the extension of the Shah reference to multiple species prove to be not straightforward. This supplemental declaration explains why this turned out to be the case.

3. We encountered three principal areas of difficulty in attempting to extend the findings discussed in the Shah reference to multiple species.

4. The first area of difficulty was developing an optimum method to use to normalize the apparent VCD coefficients using the IR transmission coefficients. Several distinct methods were possible and each one required a separate experiment and thought process. We found that we could not use the full IR sample coefficients including solvent, but had to carefully isolate sample coefficients for each absorbing species, both chiral and non-chiral. We considered in detail three different methods but found that only one worked, the one described in this application. These findings were the subject of an article published in 2004.

5. The second area of difficulty was finding a way to remove VCD baseline artifacts arising from sources of non-chiral species in the sample, such as solvent concentrations, and other reactant species. This was resolved by making sure that a second photoelastic modulator (PEM) was always placed in the IR beam after the reaction cell containing the sample. In addition, we found that we had to include the effect of the non-chiral solvent on the VCD baseline in the chemometric calibration model. In this way, changes in the VCD transmission spectrum could be isolated that were only due to VCD changes in the chiral species

6. The third area of difficulty was overcoming problems following enantiomeric excesses in samples across wide ranges of %ee values. We found that we had to limit the range of percent enantiomeric excess (%ee) that could be monitored in the two chiral species undergoing concentration and %ee change (i.e., reactant and product species). In the end, we limited the range for each species. We found that VCD could not accurately monitor %ee values lower than a particular limit that is molecule dependent without losing the signal below the noise level.

7. The complications or limitations discussed above were not known, anticipated or apparent at the time of writing the Shah reference. The first paper on this subject (and this patent application) following the Shah reference in 2001 did not appear for several years during which time we worked to overcome the problems and complications described above.

I hereby declare that all statements made herein are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Laurence A. Nafie, Ph.D

Jan 10, 2008

Date